BRUHAT BANGALORE MAHANAGARA PALIKE

YELAHANKA ZONE

BYATARAYANAPURA DIVISION

KODIGEHALLI SUB DIVISION

WARD 7: BYATARAYANAPURA

Name of work Establishment of RO plant children play eyuipments and open gym equipments in Kempapura and surrounding areas in ward no.07, Byatarayanapura Kodigehalli Sub Division.

P-CODE:- P2415

Estimate Cost:- 40.00 lakhs

BRUHATH BANGALORE MAHANAGARA PALIKE

Name of work:- Establishment of RO plant children play eyuipments and open gym equipments in Kempapura and surrounding areas in ward no.07, Byatarayanapura Kodigehalli Sub Division.

SL	Description of work	No.	Dimensions			Qty	Rate	Amount
			L	B	D			
1	2	3	4	5	6	7	8	10
1	KSRRB 2-1.1: Earthwork in surface excvation in ordinary soil for levelling and lowerng the ground manually (other than foundation of buildings, culverts road drains and trenches of pipe lines and cables) and removing the excavated stuff to a distance not exeeding 50m and lift upto 1.5m, excavated stuff to a distance not exceeding 50m and lift upto 1.5m excavated syrface levelled and neatly dressed, disposed earth to be levelled after breaking of clods and neatly dressed as per specifications.(Pg No.5.Item No.2.1)							
	For open gym and children play equipments	4	0.45	0.45	0.3	0.24		
	RO PLANT							
	For Leveling Ground	1	3	3.6	0.15	1.62		
	Centre Line 2 Nos	2	2.65	0.9	0.9	4.29		
		2	3.15	0.9	0.9	5.10		
	Overburden earth	1	5	5	1	25.00		
	Basic rate	cum	**157.00**			**36.26**	**166.42**	6035
	Add A.W. 6%		9.42					
	Total		**166.42**					
2	KSRB 4-1.3: Providing and laying in position plain cement concrete of nominal mix 1:4:8 using 40mm and down size graded granite metal machine mixed, conrete laid in layers not exceeding 15 cms. Thick well compacted in foundation and plinth, including cost of all materials labour, HOM of machinery, curing complete as per specification . (Pg.No.12, It.4.3)							
	For open gym and children play equipments	4	0.45	0.45	0.15	0.12		
	RO PLANT							
	Wall Portion	4	2.65	0.90	0.15	1.43		
		4	3.15	0.90	0.15	1.70		
	Flooring	2	2.65	2.60	0.15	2.07		
	Building Suroundings	4	2.65	0.60	0.15	0.95		
		4	3.15	0.60	0.15	1.13		
	Basic rate	cum	**4867.00**			**7.41**	**5159.02**	38221
	Add A.W. 6%		292.02					
	Total		**5159.02**					
	Basic rate		68.00					

3	KSRB 4-1.6: Providing and laying in position plain cement concrete of mix 1:2:4 with cement @ 240 kgs with 20mm and down size graded granite metal coarse aggregates @ 0.878 cum and fine aggregates @ 0.53cum, machine mixed concrete laid in layers not exceeding 15cms thick well compacted in foundation plinth and cills including cost of all materials, labour HOM of machinery curing complete as per specifications.(Item No.4.6, Page No.12)							
	For open gym and children play equipments	4	0.45	0.45	0:15	**0.12**		
	RO PLANT							
		4	2.65	0.45	0.10	0.48		
		4	2.90	0.45	0.10	0.52		
	Building Suroundings	4	2.65	0.60	0.10	0.64		
		4	2.90	0.60	0.10	0.70		
	Basic rate	cum	**5441.00**			**2.45**	**5767.46**	14145
	Add A.W. 6%		326.46					
	Total		**5767.46**					
4	Providing and fixing open gym euipments and children play equipments in Amruthalli.,							
		1	TMP 013 WONDER PLAY			1	1866124	1866124
			GST CHARGES 18%					335902.32
	RO PLANT							
5	KSRB 5.2.3 : Providing and constructing granite / trap / basalt size stone masonry in foundation with cement mortar 1:6, stone hammerd dressed in courses not less than 20 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications.KBS 5.1.13 Page No. 23 / Item No. 5.6 /							
	Wall Portion	4	3.65	0.75	0.60	6.57		
		4	3.05	0.75	0.60	5.49		
	Basic rate	cum	**4187.00**			**12.06**	**4521.96**	54535
	Add A.W. 8%		334.96					
	Total		**4521.96**					
6	KSRB 5.3-3 : Providing and constructing granite / trap / basalt size stone masonry in basement with cement mortar 1:6, edges of stones chistle dressed in courses not less than 15 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications.KBS 5-1.13 Page No. 23 / Item No. 5.9 /							

	Wall Portion	4	2.65	0.45	0.45	2.15		
		4	2.90	0.45	0.45	2.35		
	Basic rate	cum	**5005.00**			**4.50**	**5405.40**	24300
	Add A.W. 8%		400.40					
	Total		**5405.40**					
7	KSRB 2.3 : Filling available excavated earth (excluding rock) in sides of foundations upto plinth in layers not exceeding 20 cms. in depth, compacting each deposited layer by ramming after watering with lead upto 50 m. and lift upto 1.5 m. including cost of all labour complete as per specifications. Specification No. KBS 2.9 Page No. 6 / Item No. 2.10							
						18.79		
	Basic rate	cum	**127.00**			**18.79**	137.16	2578
	Add A.W. 8%		10.16					
	Total		**137.16**					
8	Providing flooring with 60 cms.x 60 cms. size Vitrified glazed tiles of approved quality & make, fixed on top of existing flooring fixed with suitable adhesive, including cutting the tiles to the required size and fixing etc., complete Page No. 107, Item No. 14.44,							
		2	2.10	2.60		10.92		
	Basic rate	cum	**1069.00**			**10.92**	**1154.52**	12608
	Add A.W. 8%		85.52					
	Total		**1154.52**					
	Providing RO Plant							
	Providing revsrse osmosis suystem to cover 2000 Liters of High TDS water per hour							
	TECHNICAL SPECIFICATIONS							
	Flow Rate:							
	Feed Water : 5000 LPH							
	Treated Water : 3000 LPH							
	Reject Water : 2000 LPH							
	RAW WATER PUMP							
	Purpose:- To feed the Dual Medial filter at pressure more than 2.00 bars which is min operating pressure for filter?							
	SAND MEDIA FILTER							

	Purpose:- To remove the total suspendred solids, dirt, iron and reduce silt density index which can foul the members							
	ACTIVATE CARBON FILTER							
	Purpose:- To remove the total color, smell, odor from the water.							
	Media: Mixed bed sand media consisting of the following i) Gravel ii) Pebbles iii) carbon Average porosity 50 micron particulate size bed depth : 1500 mm pipelines & Accessories : Pipe of PVC 10 Bar tested pressure testing cock & pressure gauges at intlet - outlet of system							
	DOSING SYSTEM							
	Purpose : To dose anti scaling chemical to protect the scaling formation on RO Membranes							
	MICRON FILTER							
	Purpose : To remove the fine particles ip to 05 microns and reduce silt density levels to acceptable level.							
	HIGH PRESSURE PUMP							
	Purpose : To feed the reverse Osmosis membrane at pressure more than the osmotic pressure taking into consideration flux rate, flow and recovery							
	RO membrane housing.							
	Purpose : To pack membrane and operate at high pressure.							
	RO MEMBRANES							
	Purpose : To remove the major part of TDS into 98% by Reverse Osmosis Membranes arranged and designed to give adequate flow the Recovery.							
	RO CLEANSING SYSTEM							
	ELECTRICAL PANEL							
	Purpose : A control panel is provided as a safety measure for the pumps & other electrical items.							
	Specifications a) Complete starters, overload relays, b) Voltmeter, Ammeter, MCB's indicating lights, c) Rocker switches for Dozers, d) incomers, Auto-Manual switches.							

	INSTRUMENTATION							
	Purpose : a) Flow meter : To measure the online flow of water flowtec b) Low pressure switch : To protect RO pump from dry running c) High pressure switch : To protect RO pump from back pressure d) Pressure Gauges : For calculate AP for each unit in							
	PH DOSING SYSTEM							
	Purpose to dose sodium Bi-carbonate for enhances product water SS till the pre-filteration & SS from HPP to thhe premeter line termination point NRV's pressure relief valves, wherever needed the system will be on common SS base frame supply & manufacture of complete Reverse Osmosis plant stainless steel tank (2kl) Raw water tank (5kl) with stainless steel pipe line required for							
		1					1.00	946000
10	Providing and Construction of pup panel cabin MS material vetical 50 x 100 mm thick tube, rafter 50 x 100 mm thick rectangle tube 50 x 50 mm thick tuve purlines, roof panel of 30 mm sandwitch puf panel density : 40 kg and wall panel of 30 mm sandwitch puf pannel density : 40 kgs (polyurethane foam) with noth side G I Colour coated sheet ancillaries like C-channels, angles, sealene etc, door of size 1.8 x 2.0 m an alluminium powder coated window of size 1.00 x 2.00 m 1 No of structural glazing (fixed and sliding One side slope as per elclosed drawing cabin of size etc (Approved Quoated Rate) (10 x 12 Ft)							
		1				1.00		
	Approved Rate		**250204.80**			**1.00**	**250204.80**	250205
	Electrification chages							50000
				Sub Total				3603380.32
				Add 10% KRIDL Charges				360338.03
				Add 1% Labour cess charges				36033.80
				Miscellaneous and rounding off				247.84
							Total:-	**4000000.00**

ADMINISTRATIVE APPROVAL
Accorded For Rs. forty lakhs only
Head of A/c P-2415
Div. Ref. No. 151/17-18 Dt. 23/12/17
AE 23/12
EE(BTP) 23/12

Technical Sanction
Accorded For 40.00lakhRs
Head of A/C P2415
CER NO : 521 Dt: 12/01/18
TA
CE (YNK)

Certificate:-

1)This is certified that the work spot comes under BBMP limits only.

2)The rates are as per CSR of 2016-17 year of PWD Bangalore Circle.

3)The Provisions made in estimate are adequate and necessary.

M.N.D.
Asst.Engineer
Ward no.7

Asst.Exe.Engineer
Kodigehalli Sub-division

Executive Engineer 23/12
Byatrayanapura Division

23/12